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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/586,667	07/20/2006	Anne Ortiz-Julien	BJS-1721-122	8048
23117 7590 12/07/2010 NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203				
EXAMINER				
BADR, HAMID R				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/586,667

Applicant(s)

ORTIZ-JULIEN, ANNE

Examiner

HAMID R. BADR

Art Unit

1781

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/02/2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/200)
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____
- Paper No(s)/Mail Date: _____

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/10/2010 has been entered.

Claims 13-36 are being considered on the merits.

Claim Objections

Claims 33-34 are objected to because of the following informalities: Claims 33-34 recite "A fruit juice of claim 20". Since these claims depend on claim 20, 'fruit juice' is expected to be recited with the definite article 'the'. Appropriate correction is required.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 17, 21-22, 25, 27, 31-32 and 35-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
3. Claims 21-22, 27, 35, and 36 are indefinite for "yeasts". Since these claims depend on claims reciting "glutathione-enriched yeast", it is not clear whether different 'yeasts' are meant

or 'yeasts' simply means 'yeast cells'. It is suggested to correct this word for consistency of claims.

4. Claim 25 is indefinite for "by means of a provision of glutathione". The phrase as recited is ambiguous.

5. Claim 25 is also indefinite for "naturally rich". The phrase does not refer to a specific compound, therefore it is not clear what the scope of the claim is.

6. Claims 17, 31-32 are indefinite for " produces a provision of". The phrase is not clear. The white grapes must naturally contains glutathione, therefore this phrase as recited is unclear.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 13-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ferrarini (EP 1,236,795; hereinafter R1) in view of Salgues et al. (1986, Oxidation of grape juice 2-S-glutathionyl caffeoyl tartaric acid by Botrytis cinerea laccase and characterization of a new substance:2,5-di-S-glutathionyl caffeoyl tartaric acid).

3. R1 discloses an improved vinification process wherein a dose of oenological yeast in active paste form or other forms in a moist state is introduced into the wine. The treatment is provided during the refining of the wines for improvement of its organoleptic and compositional qualities. (Abstract). Given that R1 teaches that various forms of yeast other than paste can be

introduced into the wine, it is obvious that various forms of yeast other than paste i.e. active dry yeast or inactive dry yeast, as presently claimed in claim 18, can be added to the must.

4. R1 discloses that the yeast in lysis liberates enzymes which contribute to the improved evolution of the wines. R1 teaches that even dead yeast consumes dissociated oxygen and therefore, wines conserved in the presence of yeast are less subject to oxidation phenomena. R1 adds that the "secondary" actions are performed by yeasts both in the fermentation phase and in the post fermentation phase .[0011 and 0012]. Given that the secondary action of yeast, i.e. antagonism to the oxidation of wine, can be performed in the fermentation phase, adding the glutathione enriched yeast as a part of fermenting yeast, as presently claimed in claim 19, would be obvious to an artisan. It should be noted that glutathione which is a natural constituent of yeast cells, is a reducing compound. This means that oxidation of phenolic compounds resulting in inferior quality of wine is prevented by the action of glutathione. Therefore, introduction of yeast into the must at the beginning, during or after the alcoholic fermentation, as presently claimed in claim 13, is an indirect method of introducing glutathione into the wine.
5. It is also noted that yeast naturally contains glutathione (about 1% on dry weight basis) and the glutathione is released into the wine upon yeast cell lysis. White grapes also contain natural glutathione which will protect the juice or the wine made therefrom. Therefore, adding yeast, as taught by R1, is in fact a method of adding natural glutathione to the wine.
6. R1 discloses that added yeast cells will cause, inter alia, the absorption of oxygen and consequent reduction of oxidation of wine. [0033]

7. R1 discloses that the secondary dose of yeast is 0.5-3 g/L which can be added to white wines and red wines. [0037]. The addition of the secondary dose of yeast may take place at any point in the maturation or refinement process of the wine [0034].
8. It is noted that yeast e.g. baker's yeast naturally contains 1-10% glutathione on a dry basis. Therefore, adding yeast containing e.g. 1% glutathione at 0.5 g/L will introduce about 5 mg glutathione per liter of must as presently claimed.
9. While R1 discloses the inclusion of oenological yeast for the purpose of improving the organoleptic properties of wines, R1 is silent regarding the role of glutathione as an anti-oxidative agent.
10. R2 discloses the role of glutathione in preventing the oxidation and browning in white grape juice. R2 discloses that in juice exposed to air, caftaric acid disappears and the so called "grape reaction product" (GRP) is formed. In the presence of polyphenol oxidase (PPO, in grapes), caftaric acid can undergo oxidation resulting in browning of juice. However, R2 concludes that addition of glutathione increases the concentration of GRP and since GRP is not a substrate for PPO, the juice resists browning. (Abstract, and page 1192 Results and Discussion: Browning and PPO oxidation)
11. The browning reactions in white wines due to phenolic compounds, polyphenol oxidase and oxygen were known at the time of invention. R1 and R2 clearly disclose the role of glutathione in preventing undesirable changes during the aging of white wine. However, since addition of pure glutathione to wine is not allowed, it would be obvious to add it to the wine must in the biological form i.e. glutathione enriched yeast cells. Additionally, techniques for producing glutathione enriched yeast were also known in the art, therefore, it would have been

obvious to one of ordinary skill in the art, at the time the invention was made to add glutathione enriched yeast to the must for primary fermentation or a secondary function as taught by R1 and R2. One would do so to protect white wine from oxidative changes during aging. Absent any evidence to contrary and based on the combined teachings of the cited references, there would be a reasonable expectation of success in adding a glutathione enriched yeast to the must.

Response to Arguments

Applicants' arguments filed after the final rejection are not persuasive. The response to those arguments was presented in the Advisory action. The response is repeated once again.

The Applicants' arguments are not persuasive for the following reasons.

1. Applicants argue that the introduction of glutathione to the must cannot be envisioned because it is known that glutathione, since it constitutes a nitrogen source, can be consumed during alcoholic fermentation by the inoculated active yeast and that based on this statement, it would not have been obvious that in fact a positive result would be obtained concerning an advantageous effect on the effective aging of white wine.
 - a. The addition of glutathione, as a pure chemical, to the must is not allowed. Therefore, its contribution to the protective effect against wine oxidation should be provided either by the yeast glutathione content, ranging from 1-10% on dry weight basis, or naturally by grapes themselves. R1 clearly discloses that added yeast at refining stage is advantageous for its secondary effect. This secondary effect included the protection against oxidation of wines. This was known in the art at the time the invention was known. Please see R1 at paragraphs 0011 and 0012.

The consumption of glutathione as a source of nitrogen, as projected by Applicants, is out of question because R1 does not add pure glutathione to be metabolized anyway.

The combined teachings of R1 and R2 clearly show the beneficial effects of glutathione.

Furthermore, glutathione is known in the art to be a biological reducing agent having beneficial effects as disclosed by R1 and R2. Methods of enriching yeasts to contain higher levels of glutathione as admittedly acknowledged by Applicants were also known in the art. Since R1 and R2 disclose the effects of glutathione in wine making, carrying out wine fermentation using glutathione enriched yeasts would have been obvious to those of skill in the art.

Furthermore, since the beneficial effect of glutathione was known at the time of invention, it could be added for a secondary action as disclosed by R1 (in which case the sum of the primary and secondary effects are effective in protecting the wine) or this cumulative effect could be provided by a glutathione enriched yeast as presently claimed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HAMID R. BADR whose telephone number is (571)270-3455. The examiner can normally be reached on M-F, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hamid R. Badr
Examiner
Art Unit 1781

/Keith D. Hendricks/

Supervisory Patent Examiner, Art Unit 1781